

## Abstract

A convenient and highly accurate method for detecting protein nuclear transport induced by an endogenous or exogenous substance in local areas of living cells or animals is provided. The method uses a pair of probes for detecting protein nuclear transport, comprising Probe I and Probe II. In Probe I, a protein whose nuclear transport is to be detected or quantified is connected to an N-terminal end or a C-terminal end of a fusion protein [intein-C/reporter protein-C] wherein at least a C-terminal side polypeptide of an intein and a C-terminal side polypeptide of a reporter protein are connected in this order, and in Probe II, a nuclear localization signal is connected to an N-terminal end or a C-terminal end of a fusion protein [reporter protein-N/intein-N] wherein at least the remaining N-terminal side polypeptide of the reporter protein and the remaining N-terminal side polypeptide of the intein are connected in this order.